Trainees' Satisfaction on Hospitality and Catering Training Academy (HCTA)

ဒီစာတမ်းမှာ **Hospitality and Catering Training Academy (HCTA)** ကိုတက်ရောက်ခဲ့တဲ့ သင်တန်းသားတွေရဲ့ကျေနပ်မှုကို လေ့လာထားပါတယ်။

အခန်း (၃) - သုတေသန နည်းလမ်း (Research Methodology)

၃.၁ - စစ်တမ်း သုတေသန ဒီဇိုင်း (Survey Research Design)

- ဒီလေ့လာမှုက **လက်တွေ့စစ်တမ်း** ကောက်ယူပြီး လေ့လာတဲ့ နည်းလမ်းကို သုံးထားပါတယ်။
- **HCTA** ရဲ့သင်တန်းအပတ်စဉ် (၂) မှ (၈) အထိ သင်တန်းသား ၇၅၇ ဦးကို လေ့လာခဲ့ပါတယ်။

၃.၂ - နမူနာ အရွယ်အစား သတ်မှတ်ခြင်း (Sample Size Determination)

- လူဦးရေ ၇၅၇ ဦးထဲက **ကိုယ်စားပြု နမူနာ** ဘယ်လောက်ယူမလဲဆိုတာ **Cochran's formula** သုံးပြီး တွက်ထားပါတယ်။
- **ရလဒ်** : နမူနာ ၂၅၆ ဦး လိုအပ်တယ်လို့ ထွက်လာပါတယ်။
- သင်တန်းအလိုက် **တစ်ဦးခြား ၃ ဦးမှာ ၁ ဦး** ကောက်ယူခဲ့ပါတယ်။

၃.၃ - ယုံကြည်စိတ်ချရမှု ဆန်းစစ်ခြင်း (Reliability Analysis)

Cronbach's Alpha ဆိုတာဘာလဲ?

- **မေးခွန်းလွှာရဲ့ယုံကြည်ရမှုကို တိုင်းတာတဲ့ ညွှန်ကိန်းပါ။**
- **မေးခွန်းတွေ တစ်ခုနဲ့တစ်ခု ဘယ်လောက် ညီညွတ်မှုရှိလဲ ဆိုတာ စစ်ဆေးတာပါ။**

ရလဒ်အဓိပ္ပာယ်:

- **0.962 ဆိုတာ အလွန်ကောင်းမွန်တဲ့ ယုံကြည်ရမှု ရှိတယ်လို့ ဆိုလိုတယ်။**
- **စံသတ်မှတ်ချက်:**
    - **0.9 ကျော် = အလွန်ကောင်း**

- **0.8-0.9 = ကောင်း**
- **0.7-0.8 = လက်ခံနိုင်သည်**
- **0.7 အောက် = မကောင်း**

၃.၄ - နမူနာ လုံလောက်မှု စစ်ဆေးခြင်း (Testing for Sampling Adequacy)

KMO Test (Kaiser-Meyer-Olkin)

- **ဒေတာတွေ Factor Analysis လုပ်ဖို့ သင့်တော်ရဲ့လား ဆိုတာ စစ်ဆေးတယ်။**
- **ရလဒ်: 0.949 (0.6 ထက်မြင့်ရင် ကောင်းတယ်)**
- **အဓိပ္ပာယ်: ဒေတာတွေက Factor Analysis လုပ်ဖို့ အလွန်သင့်တော်တယ်။**

Bartlett's Test of Sphericity

- **ကိန်းရှင်တွေကြား ဆက်စပ်မှုရှိရဲ့လား ဆိုတာ စစ်ဆေးတယ်။**
- **ရလဒ်: 0.000 (0.05 ထက်ငယ်ရင် ကောင်းတယ်)**
- **အဓိပ္ပာယ်: ကိန်းရှင်တွေကြား ဆက်စပ်မှုရှိတယ်၊ Factor Analysis လုပ်လို့ရတယ်။**

၃.၅ - Factor Model & Estimation Methods

- **Factor Analysis** ဆိုတာ ကိန်းရှင် (Variables) အများကြီးကို **အဓိက အကြောင်းရင်းများ (Factors)** အဖြစ် ခွဲခြားသိရှိနိုင်တဲ့ နည်းလမ်းပါ။

Factor Analysis ဆိုတာဘာလဲ?

- **ကိန်းရှင် ၂၀ ခု** ကို **အဓိက အကြောင်းရင်း ၃ ခု** အဖြစ် **စုစည်းပေးတဲ့** နည်းလမ်းပါ။
- ဥပမာ: "ဆရာရဲ့ကျွမ်းကျင်မှု", "သင်ကြားရေးအခြေအနေ", "သင်ထောက်ကူပစ္စည်းများ" ဆိုပြီး ခွဲခြားသတ်မှတ်တယ်။
- ဒီမှာ **Orthogonal Factor Model** ကို သုံးထားပါတယ်။

Principal Component Method

- Factor Analysis မှာ **အသုံးအများဆုံး နည်းလမ်း** ဖြစ်တယ်။
- **ကိန်းရှင်တွေရဲ့ကွဲပြားမှု (Variance)** ကို အများဆုံးဖော်ပြနိုင်တဲ့ အစိတ်အပိုင်းတွေကို ရှာဖွေတယ်။
- **Principal Component Method** ဆိုတဲ့ နည်းလမ်းနဲ့ ခွဲခြမ်းစိတ်ဖြာထားပါတယ်။

၃.၆ - Factor Rotation

- Factor Analysis လုပ်ပြီးရင် **ရလဒ်တွေကို ပိုပြီးရှင်းလင်းအောင် လုပ်တဲ့နည်း** ဖြစ်ပါတယ်။
- **Varimax Rotation** ဆိုတဲ့ နည်းလမ်းကို သုံးထားပါတယ်။
- ဒီနည်းက Factor တစ်ခုချင်းစီရဲ့**အဓိပ္ပာယ်ကို ပိုရှင်းလင်းအောင်** ကူညီပေးပါတယ်။

ဘာကြောင့် Rotation လုပ်တာလဲ?

- Factor Analysis လုပ်ပြီးရင် ရလဒ်တွေက **မရှင်းလင်းဘူး၊ ခွဲခြားရခက်နေတယ်**။
- Rotation လုပ်ခြင်းဖြင့် **ရလဒ်တွေကို ပိုရှင်းလင်းအောင်** ပြုလုပ်ပေးတယ်။

Varimax Rotation ဆိုတာဘာလဲ?

- **Orthogonal Rotation** တစ်မျိုးဖြစ်တယ် (Factor တွေကြား ဆက်စပ်မှုမရှိ)
- **Factor Loading** တွေကို **အမြင့်ဆုံးနဲ့အနိမ့်ဆုံး** ကွာခြားအောင် ပြုလုပ်ပေးတယ်။
- **ရလဒ်:** Factor တစ်ခုချင်းစီရဲ့**အဓိပ္ပာယ်ကို ပိုရှင်းလင်းစေ**တယ်။

အကျဉ်းချုပ်

ဒီလေ့လာမှုမှာ **နမူနာ ၂၅၆ ဦး** ကို **စနစ်တကျ ရွေးချယ်**ပြီး၊ **ယုံကြည်ရမှုရှိတဲ့ မေးခွန်းလွှာ** သုံးကာ **Factor Analysis** နည်းလမ်းနဲ့ **သင်တန်းသားတွေရဲ့ ကျေနပ်မှုအပေါ် သက်ရောက်နေတဲ့ အဓိက အကြောင်းရင်းများ** ကို ရှာဖွေထားတာ ဖြစ်ပါတယ်။

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF STATISTICS
MASTER OF APPLIED STATISTICS PROGRAMME

TRAINEES' SATISFACTION OF HOSPITALITY AND CATERING TRAINING ACADEMY

Aye Myat Mon
MAS - 35 (1st Batch)

FEBRUARY, 2022

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TRAINEES' SATISFACTION OF HOSPITALITY AND CATERING TRAINING ACADEMY

This thesis is submitted to the Board of Examination as partial fulfillment of the requirements for the Degree of Master of Applied Statistics

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ABSTRACT

This thesis examines the influence of the factors for the trainees' satisfaction Hospitality and Catering Training Academy (HCTA) in Myanmar. Descriptive statistics and factor analysis used in this thesis. For collecting primary data and secondary data this study targeted 256 trainees who have completed courses from HCTA training center industry in Kawhmu Township, Yangon Region. This study finds that the main trainee's satisfaction of HCTA is three factor such as "Teaching and Learning Conditions", "Expertise of Lecturers" and "Teaching Facilities". HCTA is an education process which involves the sharping of skill, concept, chaining of attitude and gaining more knowledge to enhance the training of trainee's satisfaction. This training makes trainees not only get new knowledge and skill as well. The study also reveals the encouragement in respective field that makes more productive in designated areas of economic activity. This thesis is only focused on the effectiveness of hotel related training centres under (TVET).

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LIST OF ABBREVIATIONS

AEC	ASEAN Economic Community
ASEAN	Association of Southeast Asian Nations
CESR	Comprehensive Education Sector Review
CVT	Center for Vocational Training
ECCD	Early-Childhood Care
F&B	Food and Beverage
GDP	Gross Domestic Product
GIZ	German Development Cooperation
HCTA	Hospitality and Catering Training Academy
HEIs	Higher Education Institutions
HR	Human Resource
HRD	Human Resource Development
HRDSAP	Human Resource Development Strategy and Action Plan
HTI	Hospitality Training Initiative
IDPs	Internally Displace Person
ILO	International Labour Organization
INGOs	International Non-Government Organizations
KMO	Kaiser-Meyer-Olkin
MOE	Ministry of Education
MOHT	Ministry of Hotel and Tourism
MSWRR	Ministry of Social Welfare, Relief and Resettlement
MTF	Myanmar Tourism Federation
MTHRD	Myanmar Tourism Human Resource Development
MTHRDA	Myanmar Tourism (HRD) Association
MTMP	Myanmar Tourism Master Plan
MTU	Mobile Training Unit
NFE	Non-Formal Education
NFPEEP	Non-Formal Primary Education Equivalency Programme
NGOs	Non-Governmental Organization
NSDA	National Skill Development Authority
NSSA	National Skill Standard Authority

OECDE	Organization for Economic Co-operation and Development
SBLP	Summer Basic Literacy Programme
SCA	Students Center Approach
SDC	Swiss Agency for Development and Cooperation
SMVTI	Singapore Myanmar Vocational Training Institute
SOC	Standard Occupational Classification
TEL	The Limited Edition
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Education, Scientific and Cultural Organization
VET	Vocational Education and Training
VETA	Vocational Education and Training Association
VSDP	Vocational Skill Development Programme
WE	Workforce Education

CHAPTER I
INTRODUCION

1.1 Rationale of the Study

The term “Technical and Vocational Education and Training” or TVET was officiated at the World Congress on TVET in 1999 in Seoul, Republic of Korea. The congress recognized the term TVET to be broad enough to incorporate to describe similar educational and training activities. TVET serves multiple purposes. A key purpose is preparation of youth for work. The current requirement is to pay more attention or special consideration to Vocational Training as a tool for the development of its human resources as a part of the capacity needs for driving the economy, ensuring a systematized approach to the activity.

Myanmar has already seen a total of is ministries including the ministry of Education conducting TVET courses at 247 training schools. More than 210 countries on 16 types of TVET are being opened by private sector. There are many TVET schools in Myanmar that train for hotel Industry including not only government owned but the private training schools as well. The centre for Vocational Training (CVT), the Singapore Myanmar Vocational Training Institute (SMVTI) and Hospitality and Catering Training Academy (HCTA) include in TVET. All of these are training the youths who like to choose their living in hotel industry.

Human Resource Development, Technical and Vocational Education and Training (TVET) in particular, is a necessary and important process for the derivation of national economic growth and development. Human Resource Development plays an important role of economic growth and improved quality of life. Hence, investment in education and training results in a more educated and skilled labor force which, in turn, is capable of increasing an economy's output services.

The country has growth potential in many sectors, such as labor-intensive and export-oriented manufacturing, including the garment sectors, telecommunications, hydroelectric energy and tourism. Vocational skills development in each sector and investment in infrastructure are necessary conditions for the development of these and other industries. To achieve development by focusing on vocational training, and to make great efforts in transforming Myanmar into a developed economy by employing the existing opportunities. Vocational training is integral to the expansion of

participation in the labour market and reduction in unemployment and poverty. It provides people with knowledge-based education and training for various occupations and integrates them into the labour market. Successful vocational training models implemented by many states are those that involves participation from various institutions both in private and public sector.

Education also plays an important role for the complete development of the youths and it is a basic right of every young people to have a responsible livelihood in a society. Likewise, education also has an enormous contribution to make the achievement of their life. Youths are important for a nation as its future lies the hands of these youths. Growing up of the youth with the best contribution of physical and mental improvement is the basic need for these youths in order to be of good nature and responsible awareness throughout their life.

Most of young people are dropped out from Basic Education level, Middle School Level and High School Level who joined to work as unskilled labour for their families' food, clothing and shelter. Nowadays, there are vocational training centers for young people with limited education, such as postsecondary education and high school graduated. These vocational training are supported by the government for young people to choose what kind of vocational training for their life career.

Myanmar is fast moving and opening its doors to other countries especially with Asian countries. In Myanmar, since its importance on raising country's overall level of social and economic development by producing highly competent skilled laborers, Government is encouraging TVET Training Centers. And, therefore, market demands thousands of qualified and skillful employees. Technical and Vocational Education and Training provides skills workforce. Training for employees is required to deliver the good quality of customer service. Hotel Industry is a non-smoking industry and is the main sector among the service sectors. Hotel Industry is one of the fastest growing economic sectors in Myanmar. Hotel industry becomes increasing and the demands on it also increases demands to supply it immediately.

There are many TVET schools in Myanmar that train for Hotel Industry including government owned as well as private training schools. Some of the training schools are lack of enough workshops with outdated infrastructure, tools, equipment and materials, lack of teachers' practices, and with mistrust of the state institutions, while, some are effective for their practical works and for providing more chances of getting jobs.

Some of the TVET schools have good facilities and enough time to get proficiency in those respective hotel and hospitality subjects. On the other hand, the hoteliers also get the qualified skillful employees for their hotels. For that assisting employment opportunities, young working people can stand alone in the independence of their parents for the importance of TVET role with regards to the hotel and tourism sector. Technical and Vocational Education Training is referred to as involving post-secondary and non-degree technical vocational education and training. TVET provides education and training to prepare students and other clients for employment. It also provides specific skills training for those who are already in the labour market and need to upgrade of develop new competencies to enhances for employment and improve productivity.

This study a detonative approach was employed data collected from Tevet Vocational Education Training collage staff, utilizing a questionnaire and focus group interviews. An analysis of the non-numeric data was conducted through open coding-Semi-structured focus group intervals were recorded, transcribed and analysis by using levels and categories of responses. Respondents' data were graphically displayed for the closed question section of the survey, which a narrative formal was used to describe the findings of the open ended question section possible statistical relationships were drawn between the biographical characteristics of the respondents and three questions, using pears values. The necessity for adequate training is part informed by environment challenges and partly informed by other organization needs. To combat the menace posed by environmental factors training of employee must be intensified.

Training must operate in line with the dictate of its environment and it is trainee's that can meet challenges. The need to accommodate all trainee's creates on increased for training development of staff. This study finds out the influencing of the factors for trainee's satisfaction in Myanmar.

1.2 Objectives of the Study

The objectives of the study are;

(i) To describe of employment status, education and income levels of HCTA Trainees.

(ii) To identify the factors for the trainees' satisfaction of HCTA.

1.3 Method of Study

The study conducts the research with both types of primary and secondary data. It includes both qualitative and quantities data, this study targeted to 256 people of apprentices who have completed courses at HCTA training Centre, Kawhmu Township, Yangon Region, Myanmar. stratified random sampling method was used to find on the required samples in this study. In addition, descriptive analysis was used to identify the employment status, education and income levels of HCTA trainees. Structurally prepared questionnaire set was used for an in-deft description of a data collection process. Data was collected by two ways, such as face to face interviewing and online interviewing with samples and help of authorities of the sample of HCTA training centers. Secondary data was collected from HCTA training centers and relative research papers from the school library and websites. Factor analysis was used identify the main factors for trainee's satisfaction of HCTA.

1.4 Scope and Limitations of the Study

In terms of content, the study focused on the achievement of the trainees from 2nd to 8th batch of Hospitality and Catering Training Academy (HCTA), Kawhmu Township, Yangon Region, in Myanmar. Targeted Population 757 people from 2nd to 8th batches of students in HCTA. The major focusing factors include quality of teacher training, teaching courses delivery, commitment to Vocational Education Training, industry placement participating, physical infrastructure, training equipment and facilities, support from district office and number of getting jobs of students after school.

1.5 Organization of the Study

This thesis is organized in five chapters. Chapter I is introduction, including rationale of the study, objectives of the study, scope and limitations of the study, method of the study and organization. Chapter II includes the literature review of general education and concept and meaning of Human Resource Development. Chapter III consists of the research methodology. Chapter IV is the concerned with analysis of trainee's HCTA training school. Chapter V comprises conclusion part that involves findings, suggestions and recommendations of the study and needs for further study.

CHAPTER II
LITERATURE REVIEW

2.1 Concept and Meaning of Human Resource Development

William R. Trancey defines Human Resources as “the people that staff and operate an organization” as contrasted with the financial and material resources of an organization. Everyone needs to know about Human Resource Development (HRD) is Primarily concerned with developing the skill, knowledge and competencies of people. Human Resource development (HRD) is a people oriented concept . HRD is a recent and rapidly growing concept, various authors have defined this concept, according to their own point of view.

In fact HRD is not training and development but many Human Resource (HR) managers and organizations believe that Human Resource development (HRD)as synonymous to training and development. Leonard Nadler defines HRD, as those learning experiences which reorganized for a specific time and designed to bring about the possibility of behavior change.

This is an era of microchips and globalization where mergers and acquisition are the order of the day, no resource id more import than HR. Gone are the days when machines were considered to be the wheels of advancement. People and companies have now come to believe that the only vehicle for advancement is the human resources. The ends and means of any human activity are humans. The dictum has to be of by the people, for the people and of the people.

Heny Human Resource development (HRD) activities should being when an employee joins an organization and continue throughout his of he career, regardless of whether that employee is an executive of a worker on an assembly line, HRD Programs must respond to job changes and integrate the long-term plans and strategies of the organization to ensure the efficient and effective use of resources.
Technical and Vocational Education and Training (TVET) provides education as well as training to people with knowledge and skill for employment. TVET is recognized to be a crucial vehicle for social equity, inclusion and sustainable development.

By the year 1999, the term “Technical and Vocational Education and Training” was officiate at the world Congress on TVET in Seoul, Republic of Korea. The congress recognized the term TVET to be broad enough to incorporate with other

terms that had been used to describe in those similar educational and training activities including Workforce Education (WE), and Technical Vocational Education (TVET).

The term TVET is also used to embrace other education and training activities like Vocational Education Training (VET). The decision in 1999 to officiate the term TVET led to the development the UNESCO, UNEVOC International Centre for TVET in Bonn, Germany.

The aim of TVET is to enable trainees to meet the need of employees Technical and Vocational Education and Training serves multiple purposes. A key purpose is the proportion of youth to use in workplace. This takes the form of learning and developing work related skill, and mastery of underlying knowledge and scientific principles, Work refers to not only formal employment but self-employment as well. TVET Curricula often include entrepreneurship training to support self-employment. Due to the rapid technological changes, the worker continuously update their knowledge and skills. There are two flexibility ways. The farmer is to provide broad based technical knowledge and training skills for different occupations. The latter is providing containing vocational training for workers to update.

2.2 Importance of Human Resource Development (HRD)

Human resource development is a newly emerging study in the field of management. This newly emerging study in the field of management is fast driving out the traditional term personnel management and a substituting a new term “Human Resource Development”.

Though development of human beings has been in existence in one form of another since time immemorial, a systematic and planned approach to HRD in the company form of organization emerged in the latter half of the 20^{th} century. The following factors explain why HRD is needed.

(i) To Develop Competencies

The basic fact for HRD is to develop competencies in people at all levels in the organization. HRD has two purpose to provide employees frater opportunity to grow and succeed within a company and to strengthen management and professional term’s at all organizational levels. Competencies can be developed by increasing ability through increased knowledge, skill, and change in attitudes. Knowledge refers

to the possession of information and ideas in a particular field which may be helpful in developing relationship among different variables relate to that field. Skill refers to expertness, practical ability, or facility in an action or doing something.

Attitude refers to the orientation of an individual in terms of settled mode of thinking or behavior and terms consisting them is required in all types of organization, business of non – business. However, in business organization, their role is more focused because of increased competition.

The functions of HRD spans several functions across the organization starting with

(i) Employee Recruitment and Training
Training helps in development of employees.

(ii) Appraisals and Payroll
HRD indulges in regular appraisals of employees and fixing the pay.

(iii) Recreational and motivational aspects of employee development
HRD helps to develop employees in a wholesome manner, they need to be motivated and deterred by providing recreational programs.

(ii) System –wide Charges

People with mere development of competencies in the organization are not enough for their effectiveness yet there must be changed in these factors with the use of the competencies. That is why, changes are needed in other aspects of organizational functioning.

HRD attempts to create organizational climate congenial to individual growth as well as organizational growth by replacing the old and traditional assumptions about human beings with contemporary about human beings. People can be motivated by carefully defined direction, authority and control as well as appropriate rewards and penalties.

Instead, the contemporary practices are based on flexibility and tailor-based system. HRD attempts to built this kind of climate.

Thus HRD Contributes to betterment of an organization in the following ways;

(i) People in the organization become more competent because of the skills that are developed in them and the clarity of roles that they perform.

(ii) Involvement in and commitment to jobs increase because of linkage between job performance and rewards both intrinsic and extrinsic.

(iii) People develop better understanding to each other based on mutual trust and confidence which generates better cooperation.

(iv) Top management becomes sensitive to human resources in terms of their utilization and solution of problems.

2.3 Important and Development of Technical and Vocational Education and Training

Technical and Vocational Education and Training (TVET) has been gaining its popularity and considered as the driving force for sustainable development TVET is also considered highly in strategic and operational priorities of the organization for Economic Co-operation and Development (OECDE) and multilateral organizations such as the international labor organization (TLO), UNESCO, ASEAN, and SEAMEO. As reflected in Shanghai Consensus, TVET systems need sustained transformation and revitalization if TVET is to realize its enormous potential to impact development. This paper will elaborate relevant policies considered as major drivers for promoting TVET at global, regional and national levels. The paper also shares TVET initiatives in response the policies, especially in meeting the labor market demands in the 21st century.

TVET systems have focused on increasing the employability of graduates and enhancing their capacity to function effectively with in existing vulnerable labour market and to adjust to other labour market constraints. This has meant enhanced co-ordination among government departments responsible for TVET and employment policies.

2.4 Education and Training System in Myanmar

Technical and Vocational Education and Training (TVET) has been expanding for the last decades in Myanmar. After a political transition, Myanmar's economic outlook has improved considerably. During recent years, Myanmar is opening its doors not only in politics and also the economy of the country. That is why, the service sectors seem to develop immediately. Hotel Industry plays as one of the important roles in them. It is the most profitable one with human power. In every country, hotel and tourism gives a huge contribution to the country's GDP. The private and public sectors with vocational education and training have become more and more popular among young people for employment in the hospitality, tourism,

beauty, fashion, nursing or engineering sectors. Human capital is the individuals who acquire skills and knowledge to increase their value in labour markets. The three main mechanisms are experience, training, and education; for most individuals are with primary education. Students in Myanmar may choose vocational schools after completing the 8-year-long compulsory primary and secondary education. Vocational high school graduates may pursue two year-long polytechnics or may continue with a related tertiary degree based on their grading at examination. Education facilitates the acquisition of new skills and knowledge that increase productivity.

Myanmar is looking for improving the quality and skills levels of labour force. The increasing recognition of higher vocational skills are crucial in enhancing competitiveness and contributing to social inclusion, decent employment, and poverty reduction has been a strong incentive for reform. The term of vocational skills development refers to the acquisition of knowledge, practical competencies, and attitudes necessary to perform a certain trade or occupation in the labour market. The development of job-related skills depends not only on part of the countries' human resource strategies but also on their economic-growth and poverty-reduction strategies.

The education and training system in Myanmar follows the structure used in most countries, with five recognized sub-sectors namely, (i) early-childhood care and development (ECCD), (ii) basic education, (iii) non-formal education (NFE), (iv) hire education, and (v) Technical and Vocational Education and Training.

(i) Early Childhood Care and Development (ECCD)

The Ministry of Education and the Ministry of Social Welfare, Relief and Resettlement (MSWRR) are both involved in the provision of early childhood care and education. In addition, a number of non-governmental organizations are active in supporting communities with the provision of ECCD services.

(ii) Basic Education

The new basic education system outlined in the National Education Law (2014) comprises five years of primary education, four years of lower secondary and three years of upper secondary education. There are currently 44,159 basic education schools in Myanmar, reaching approximately 8.6 million students. The majority of these schools are managed by the Ministry of Education's Department of Basic

Education, but a significant percentage of students' access basic education through monastic, private, community and ethnic education schools.

(iii) Non-formal Education (NFE)

The Ministry of Education provides access to non-formal education through the NFE Primary Education Equivalency Programme (NFPEEP) and the Summer Basic Literacy Programme (SBLP). Additional non-formal education opportunities can be accessed through Community Learning Centres established across the country and also through a variety of non-formal training opportunities in both government and private centers.

(iv) Higher Education

Myanmar has 170 higher education institutions (HEIs) (universities, degree colleges and education colleges), which are overseen by 13 ministries. In the 2013 academic year, 174,845 students were studying full-time in HEIs, while an additional 310,942 students were accessing higher education through Distance Education Universities.

(v) Technical and Vocational Education and Training (TVET) in Myanmar

Technical Vocational Education and Training (TVET) is one of the six focal areas of Comprehensive Education Sector Review (CESR). Myanmar since its importance on raising country's overall level of social and economic development by producing highly competent skilled laborers. The TVET sector is currently being reviewed by the TVET Sub-working Groups participated by 19 Ministries including Ministry of Education, Ministry of Labour, Employment and Social Security, Ministry of Science and Technology, Ministry of Industry, Ministry of Health, Ministry of Agriculture and Irrigation, Ministry of Environmental Conservation and Forestry, Ministry of Social Welfare, Relief and Resettlement, Ministry of Railways Transportation, Ministry of Foreign Affairs, Ministry of Finance and Revenue, Ministry of Defense, Ministry of Communication and Information Technology, Ministry of Cooperatives, Ministry of Hotels and Tourism, Ministry of Border Affairs, Ministry of Transports, Ministry of Culture and Ministry of Sports.

Another important policy consideration highly relevant to the Myanmar TVET sector is that, Ministry of Labour, Employment and Social Security has established

"National Skill Development Authority (NSDA)", with the approval of Cabinet, under the project "Enhancing Skills Recognition Systems in ASEAN (2004-2008) to prepare for the ASEAN Economic Community (AEC) to start implementing in 2014. Through this, the NSDA focuses on setting up competency/skills standard of the prioritized occupational areas selected under the TVET sector, development and design of skills standards, the competency based curricula together with required training materials for each of the defined occupational area and by the technical working group, and conducting the competency based assessment and issuing the national certificates for the TVET institutions. The TVET sector covers a wider range of the technical occupations that are related to construction, electrical, electronic, and mechanical, etc., hotel and tourism, pharmaceutical and nursing, agriculture and livestock breeding, and different vocational skills (e.g. tailoring, food processing).

In this regard, greater information and resources are necessary for all key stakeholders (i.e. youth, Ministries, service providers, entrepreneurs, employees, donors and other interested individuals) to scale up the TVET sector in order to produce skill labourers with required competencies to be in line with the NSDA. A comprehensive TVET directory with a sound database will greatly support on this purpose by providing necessary information and resources.

More relevantly, the primary beneficiaries, who are the school drop-outs, youth, and vulnerable, can have easier access to necessary information from web-based TVET directory, prior to selecting occupation fields. By engaging the working forces in different occupational fields in Myanmar and other ASEAN countries, youth can increase their income and employment opportunities and so can the country's GDP and economy in future.

The TVET Directory will be the web-based and hence all interested users can have access to information readily available in the TVET website. Moreover, the TVET Directory will be a kind of living document since it can be updated and added up with more information by the training institutions if there are new training programs.

For the time being, with collaboration of all concerned ministries and service providers from private TVET Institutions, the team jointly assigned by Swiss Agency for Development and Cooperation (SDC) and German Development Cooperation (GIZ) is working on the TVET database to satisfactorily meet the information needs of the anticipated users.

2.5 Human Resource Development for Hotel Industry in Myanmar

Myanmar can benefit from its location at the crossroads between South and South-East Asia and the attractiveness of the country as a new tourist destination. Therefore, the potential for catch-up growth is enormous. The opportunities in hotel industry cover: hospitality training, low-cost aviation, eco-tourism, budget accommodation, and boutique and luxury hotels.

Hotel industry is providing services accommodation, food and beverages, meeting and banquet facilities for the customer. As Myanmar develops, hotel industry sector becomes very important for the country and many new world renowned hotels like Hilton, Novotel, Kempensiki as well as local hotels have been established today. Therefore, in training becomes an important part of the organization and employees development in Myanmar hotel industry. It helps the organization achieve its purpose by adding value to its key resource that the people employ. It is investing in people to enable them to perform better and to empower them to make the best use of their natural abilities.

The Myanmar Tourism Master Plan (MTMP) was launched in 2013. The MTMP acknowledges the connection between tourism development and poverty reduction, and consequently advocates a responsible approach to tourism development. Accordingly, six strategic programmes have been recommended, one of which addresses the need to build the human resource base and promote higher levels of service quality in the industry. As a direct consequence of MOHT's ongoing efforts to address the challenges in human resource development, a series of strategic initiatives are under implementation:

(i) Engagement with the Common ASEAN Tourism Curriculum and the associated toolboxes for training providers

(ii) Training of a cadre of master trainers and assessors

(iii) Customization of the toolboxes for Myanmar

(iv) Establishment of regulatory boards to oversee the standard of training provision

(v) A comprehensive education sector reviewed by the Ministry of Education (MOE)

(vi) Introduction of a university-level tourism studies programme.

Establishment of the Myanmar Tourism Federation (MTF) and its sector associations, which includes a focus on tourism human resource development

Ministry of Hotel and Tourism is actively engaged with and strongly supports the development of Human Resource Development Strategy and Action Plan (HRDSAP).

Training and development play the major role to achieve the organizational goals. Actually training and development have different meanings. Training provides learners with the knowledge and skills needed for their present job. Development involves learning that goes beyond current job and has more long term focus. So training and Development practices are intended to improve current or future performance of employees through learning process. Training and development prepare employees for their present and future jobs by providing knowledge, changing attitudes or increasing the skills.

Training and development is the heart of continuous effort designed to improve employee competency and organizational performance. Effective training and development practices are pivotal to become an efficient workforce of the hotel business. Hotel Industry aims that effective training program toward their organization development with performance of well-trained employees.

2.6 Opportunities and Challenges of Myanmar Working People

Myanmar is rich with a large working aged population (aged 15 to 64) and an estimated 3 to 5 million migrants working abroad whose experience would benefit the country if they would return home. Seven sectors are likely to drive economic growth in the next 20 years: manufacturing, agriculture, infrastructure, energy& mining, tourism, financial sector and telecommunication.

Identified challenges from the in-depth TVET System analysis can be summarized as follows:

(i) high unemployment especially amongst the youth

(ii) limited access to skills development

(iii) high drop-out rates from schools and training providers

(iv) unmet skills needs of industry and the mis-alignment with labour market needs

(v) the insufficient quality and relevance of training curriculum, delivery and assessment

(vi) the urgency of Myanmar to be prepared for the ASEAN economic community and free labour flow in December 2015.

An effective TVET system is a significant driver of progress in Myanmar and increases the productivity of the nation as well as career progression for its people, through enhanced skills development, application of industry standards, quality assurance and certification. It creates pathways to employment for school leavers and disadvantaged or vulnerable people. It provides educational opportunities for all, thereby fostering chances.

The SOC program focuses on disadvantaged women and men, including youth, migrants, returning lDPs and refugees, mainly in the southeast, to have access to relevant vocational skills offers which meet the needs of the labor market. Three components are:

(i) Strengthening the delivery of vocational skills through the support of (i) the Centre for Vocational Training in Yangon, (ii) the expansion and quality of training in the hospitality industry, (iii) the provision of mobile training for underserved (rural) areas.

(ii) Improving training standards quality control and accreditation, through the support of the National Skills Development Authority and the national qualification framework to be aligned to ASEAN standards.

(iii)Policy dialogue aiming at the transfer of the contextualized Swiss expertise focusing on the (adapted) dual training and apprenticeship system, with the objective to feed the formulation of policies and legislation with experiences from the field.

2.7 Current Status of Technical and Vocational Education and Training for Hotel Industry

There are over 20 tourism and hospitality training centres, clustered mainly in Yangon and Mandalay, delivering a variety of predominantly short course trainings for the hospitality and tourism sectors. Many of these private training centres belong to MTHRDA (the Myanmar Tourism HRD Association). Training centres vary significantly in their focus and can be divided into two categories, those that provide either (a) further or higher education, generally through diploma courses, which includes around 8 institutions, or (b) technical and vocational education and training, which covers around 15 institutions. A list of these training centres is included in the following section and as Appendix-II.

A growing number of development partners and NGOs are engaged in tourism training and education. Programmes vary in scale, from the larger Swiss contact and Lux Dev programmes, which focus on training for industry, to others such as the Singapore-Myanmar Vocational Training Institute and the Centre for Vocational Training (CVT), which have invested in college facilities as well as in curriculum development, training materials, and training of trainers. Other organizations work within existing institutions, such as the UNESCO/Yangon University of Economics/PepsiCo Centre of Excellence for Business Skills Development. INGOs and local NGOs have also set up culinary schools and cafes in urban locations to train underprivileged women and men: the Yangon Bake house is one such example, and Shwe Sa Bwe another.

Many NGOs and INGOs are funded by international as well as local donors and offer short courses linked to local community needs and/or employment prospects. programmes funded by development partners are usually either free or heavily subsidized to ensure access to vulnerable/disadvantaged people, such as those in post-conflict areas or IDP camps. Their curriculum may be based on that of the country or the institutions of the donor country. As most are short courses, certification is not common but is possible. Quite a lot of this training has no pathway to further education or training, and fits the definition of non-formal education (NFE).

Formal (institution based, usually accredited) education and training providers, both in TVET and higher education, offer a variety of tourism programmes, accredited by the NSSA or the MOHT, under the auspices of international education and training institutions. Given the sector growth prospects and the scale of opportunities and challenges, Government of Myanmar welcomes further interest and support from its development partners, especially in the states, regions and priority destinations identified.

There are total twenty of private technical and vocational education and training centres in Myanmar. One training centre is located in Mawlamyine, one training centre is in Inle, two training centres are in Bagan and four training centres are in Mandalay. In Yangon Region, there are twelve training centres. Four of these centres from Yangon were mentioned in this study. They are (i) Hospitality and Catering Training Academy (HCTA), (ii) Star Academy, (iii) The Limited Edition Vocational Development Training Centre (TLE) and (iv) Centre for Vocational

Training (CVT). In this study, the important factors for Trainees' satisfaction of HCTA.

2.8 Hospitality and Catering Training Academy (HCTA)

Hospitality and Catering Training Academy (HCTA) was established in 2014 for the younger generation of Myanmar who aspire to choose a career in hospitality industry. It has continued to grow, and it was accredited by The Ministry of Hotel and Tourism and The National Skills Standard Authority (NSSA) to offer internship courses in hotel and tourism industry management.

Mission

To achieve this goal, trainees will be taken through the paths of vocational training which is based on innovative learning.

Vision

To help youths of Myanmar become skilled, independent, successful and well-equipped leaders in hospitality and catering industry. HCTA aims to fulfill vocational training needs nationwide and to extend training in other subjects.

Types of School

Hospitality and Catering Training Academy (HCTA) is a non-profit training centre empowering the youths with education and vocational training, not only creating job opportunities but also supplying the rapid demand of tourism and hotel industry. Base in Kaw-Hmu which is one of the outcast town of Yangon city, Myanmar.

HCTA provides instruction in bilingual (Myanmar and English) to students of any race, nationality, sex, color, religion or creed who have successfully passed the academy's entrance examinations. HCTA exposes students to a broad range of hospitality courses covering the inter-related areas of the travel & tourism industry, by means of theoretical and practical work within the school and by regular periods of internship in recognized hotels, restaurants or related institutions.

Today, HCTA contributes actively to the standards of excellence in hospitality and service. HTCA are committed to preparing tomorrow's leaders for success. HCTA

develops their work ethics, entrepreneurial spirit and creative thinking. HTCA teach them how to make a difference with professionalism.

The program's Hospitality Training Initiative (HTI) component facilitates the increase of skilled persons in the hospitality industry, while the Mobile Training Unit (MTU) component improves competencies of disadvantages women and men in Myanmar, according to labour market demand. Another component, Support to the National Skills Standards Authority (NSSA), will complement these efforts with the development of skills standards and a credible system of skills testing and certification.

Class Size and Numbers of Rooms

Maximum class size is 30 apprentices and there are 5 classrooms which are facilitated with air-conditions, computers and projector for the effective learning.

Courses Delivery

(i) Hotel Operation (Front office operation, Housekeeping operation, Food & Beverage-Service operation)

(ii) Culinary Arts (Hot Kitchen and Bakery & Pastry)

Trainer (Local)

There has altogether twelve local trainers for hospitality subjects to teach.

Training Materials

According to the Hotel Operation program, this profession offers four major subjects of a hotel operation. They are front office operation, housekeeping operation, food and beverage operation and Culinary Arts. Therefore, Hospitality and Catering Training Academy equips with front desk for front office subject, a mockup room for housekeeping subject, a small set up of restaurant for practical teaching and hot & cold kitchen and bakery & pastry for International Culinary subject. All require training materials like competency based curriculum, test items and teaching aids are well organized in school for student learning.

Number of students completed

During the period from 2015 to 2019, 757 students have graduated from 2nd to 8th batches. 1st batches trainees are very far from the training school and it is difficult to communicate, so no data collected.

CHAPTER III
RESEARCH METHODOLOGY

This chapter includes the research methodology of the study. In this part the author outlines the research strategy, the methods of data collection, the selection of the sample, the research, the research process, the type of data analysis, the ethical considerations of the study.

3.1 Survey Research Design

Survey research design are procedure in quantitative research in which investigators administer a survey to a sample.

The study was conducted during in May 2019 at Hospitality and Catering Training Academy Training (HCTA) in Kawhmu Township, Yangon Region, in Myanmar. There are 2nd, 3rd, 4th, 5th, 6th, 7th, 8th batches trainees. There are seven different types of batches.

Table (3.1) Trainee's at Hospitality and Catering Training Academy (HCTA)

Batch No	Batch Name	Number of Trainees
1	2nd Batch	88
2	3rd Batch	106
3	4th Batch	110
4	5th Batch	112
5	6th Batch	128
6	7th Batch	87
7	8th Batch	126
	Total	**757**

Source: Hospitality and Catering Training Academy (HCTA) in Kawhmu Township

3.2 Sample Size Determination

In this survey, the population is known and smaller. So, the sample size was calculated using the following "Cochran's Sample Size Formula".

$$n = \frac{n_0}{1+\frac{(n_0-1)}{N}}$$

where

$n_0$is sample size

N is the population size

n is the new, adjusted sample size.

The Cochran formula allows to calculate an ideal sample size given a desired level of precision, desired confidence level, and the estimated proportion of the attribute present in the population.

Cochran's formula is considered especially appropriate in situations with large populations. A sample of any given size provides more information about a smaller population than a larger one, so there's a 'correction' through which the number given by Cochran's formula can be reduced if the whole population is relatively small.

The Cochran's Formula is

$$n_0 = \frac{z^2pq}{e^2}$$

N = 757

$$n_0 = \frac{(1.96)^2*0.5*0.5}{(0.05)^2}$$

$$= 384.16 \approx 385$$

$$n = \frac{385}{1+(\frac{385-1}{757})}$$

$$= 255.4294$$

$$\approx 256$$

where

e (the desired level of precision) = 5% = 0.05

p (the maximum possible proportion0 = 50% = 0.5

q is 1-p = 1-0.5 = 0.5

The z-value = 1.96 for 5% significance

So, the required sample for this study in at least 256 Trainee's. It can be concluded that the sample size need to collect 256 Trainee's.

The sampling interval (k) obtained using k = N/n

$\frac{757}{256}$= 2.96 ≈3

The Survey collected the data every 3rd trainee's per one in each batch except from batch 1, Since it is too difficult to collect due to the challenge of contact number.

Table (3.2) Sample Size

Sr.	Batch Name	Number of Trainees	Sample Trainees
1	2ndBatch	88	30
2	3rd Batch	106	37
3	4th Batch	110	37
4	5th Batch	112	38
5	6th Batch	128	43
6	7th Batch	87	29
7	8th Batch	126	42
	Total	**757**	**256**

3.3 Reliability Analysis

Reliability is the scale construction counterpart of precision and accuracy in physical measurement. Reliability can be thought of as consistency in measurement. To establish the reliability of the data, the reliability coefficient (Cronbach Alpha) was verified. There are a number of different reliability coefficients. One of the most commonly used is Cronbach's alpha. Cronbach's alpha can be interpreted as a correlation coefficient; it ranges a value from 0 to 1. Robinson and Shaver (1973) suggested that if Alpha is greater than 0.7, it means high reliability and if Alpha is smaller than 0.3, it means low reliability.

Reliability Test

Before using the factor analysis, it is very important to test the reliability of the dimensions in the questionnaires. Cronbach's alpha, a statistical test used to examine the internal consistency of attributes, was determined for each dimension. This statistical test shows the attributes are related to each other and to the composite

scores. The composite scores for each section of the questionnaires was obtained by summing up the scores of individual statements. Cronbach's alpha is defined as -

$$\alpha = \frac{K}{K-1}\left[1 - \frac{\sum_{i=1}^{k} S_i^2}{S_T^2}\right]$$

Where

α =Cronbach's alpha,

K= Number of Statement

S_i^2 = variance of each statement

S_T^2= variance for sum of all items

If alpha value is high, then this suggests that all of the items are reliable and the entire test is internally consistent. If alpha is low, then at least one of the items is unreliable and must be identified via item analysis procedure. However, the Cronbach's alpha value should be above 0.7.

3.4 Testing for Sampling Adequacy

Kaiser-Meyer-Olkin (KMO) test is a measure of how suited the data is for Factor Analysis. The test measures sampling adequacy for each variable in the model and for the complete model. The statistics is a measure of the proportion of variance among variables that might be common variance. If lower the proportion, the more suited the data is to Factor Analysis. KMO takes the value between 0 and 1. A rule of thumb for interpreting the statistic. KMO value lies between 0.8 and 1.0 indicate the sampling is adequate. KMO value less than 0.6 indicates the sampling is not adequate and that remedial action should be taken. KMO values close to zero means that there are large partial correlations compared to the sum of correlations. In other words, there are widespread correlations which are a large problem for factor analysis.

The Bartlett's test of Spherically relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For a large sample, Bartlett's test approximates a Chi-square distribution. However, the Bartlett's test compares the observed correlation matrix to the identity matrix. Therefore, the Bartlett's test forms something of a bottom line test for large samples, but is less reliable for small samples. For factor analysis to be recommended suitable, the Bartlett's Test of Sphericity must be less than 0.05. In addition, very small values of significance

(below 0.05) indicate a high probability that is significance relationship between the variables, whereas higher values (0.1 or above) indicate the data is inappropriate for factor analysis.

Orthogonal Factor Model

The orthogonal factor (Richard A. Johnson, 1992) was described. The observable random vector X, with p components, has mean μ and covariance matrix **Σ**.

The factor model postulates that **X** is linearly dependent upon a few unobservable random variables F_1, F_2, …., F_m, called common factors, and *p* additional sources of variation e_1, e_2, … e_p, called errors or, sometimes, specific factors. in particular, the factor model can be selected as follows:

$$X_1 - \mu_1 = \ell_{11}F_1 + \ell_{12}F_2 + \ell_{13}F_3 + \ldots + \ell_{1m}F_m + \varepsilon_1$$
$$X_2 - \mu_2 = \ell_{21}F_1 + \ell_{22}F_2 + \ell_{23}F_3 + \ldots + \ell_{2m}F_m + \varepsilon_2$$
$$\vdots \qquad\qquad \vdots$$
$$X_p - \mu_p = \ell_{p1}F_1 + \ell_{p2}F_2 + \ell_{p3}F_3 + \ldots + \ell_{pm}F_m + \varepsilon_p$$

or in matrix notation,

$$\underset{(p\times 1)}{\mathbf{X} - \boldsymbol{\mu}} = \underset{(p\times m)}{\mathbf{L}}\,\underset{(m\times 1)}{\mathbf{F}} + \underset{(p\times 1)}{\boldsymbol{\varepsilon}}$$

μ_i = mean of variable *i*

ε_i = i^{th} specific factor

F_j = j^{th} common factor

ℓ_{ij} = loading of the it^{h} variable on the j^{th} factors

The unobservable random vectors **F** and **ε** satisfy the following conditions:

F and$\boldsymbol{\varepsilon}$ are independent

$E(\mathbf{F}) = \mathbf{0}$, $\mathrm{Cov}(\mathbf{F}) = \mathbf{I}$

$E(\boldsymbol{\varepsilon}) = \mathbf{0}$, $\mathrm{Cov}(\boldsymbol{\varepsilon}) = \boldsymbol{\Psi}$, where **Ψ**is a diagonal matrix

Covariance Structure

The orthogonal factor model implies a covariance structure for **X**,

$$\sum = \mathrm{Cov}(\mathbf{X}) = \mathrm{E}(X - \mu)$$
$$= \mathrm{LE}(FF')L' + \mathrm{E}(\varepsilon F')L' + \mathrm{LE}(F\varepsilon') + \mathrm{E}(\varepsilon\varepsilon')$$
$$= \mathbf{L}\mathbf{L}' + \boldsymbol{\Psi}$$

by independence, $\mathrm{Cov}(\boldsymbol{\varepsilon},\mathbf{F}) = \mathrm{E}(\varepsilon,\mathrm{F}') = 0$

$$\text{Cov}(\mathbf{X}) = \mathbf{LL}' + \mathbf{\Psi}$$

or

$$\text{Var}(X_i) = \ell_{i1}^2 + \cdots + \ell_{im}^2 + \psi_i$$
$$\text{Cov}(X_i, X_k) = \ell_{i1}\ell_{k1} + \ell_{i2}\ell_{k2} + \cdots + \ell_{im}\ell_{km}$$
$$\text{Cov}(\mathbf{X}, \mathbf{F}) = \mathbf{L}$$

or

$$\text{Cov}(X_i, F_j) = \ell_{ij}$$

The model $\mathbf{X} - \boldsymbol{\mu} = \mathbf{LF} + \boldsymbol{\varepsilon}$ is linear in the common factors. The portion of the variance of the i^{th} variable contributed by the m common factors is called the i^{th} communality. That portion of $\text{Var}(X_i) = \sigma_{ii}$ due to the specific factor is called uniqueness or specific variance. Denoting the i^{th} communality by h_i^2,

$$\underbrace{\sigma_{ii}}_{\text{Var}(X_i)} = \underbrace{\ell_{i1}^2 + \ell_{i2}^2 + \cdots + \ell_{im}^2}_{\text{communality}} + \underbrace{\psi_i}_{\text{Specific Variance}}$$

or

$$h_i^2 = \ell_{i1}^2 + \ell_{i2}^2 + \cdots + \ell_{im}^2$$

and

$$\sigma_{ii} = h_i^2 + \psi_i, \qquad i = 1, 2, \cdots, p$$

The i^{th} communality is the sum of squares of the loadings of the i^{th} variable on the m common factors.

3.5 Methods of Estimation

The sample covariance matrix **S** is an estimator of the unknown population covariance matrix $\sum$. If the off-diagonal elements of **S** are small or those of the sample correlation matrix **R** essentially zero, the variables are not related, and a factor analysis will not prove useful. In these circumstances, the specific factors play the dominant role, whereas the major aim of factors analysis is to determine a few important common factors (Richard A. Johnson, 1992).

If $\sum$ appears to deviate significantly from a diagonal matrix, then a factor model can be entertained, and the initial problem is one of estimating factor loadings $\boldsymbol{\ell_{ij}}$ and specific variances $\boldsymbol{\psi_i}$. Two most popular methods of the parameter estimation are the principal component method and the maximum likelihood method. The solution from either method can be rotated in order to simplify the interpretation

of factors. If the factor model is appropriate for the problem to try, more than one method of solutions should be consistent with one another.

3.6 The Principal Component Method (Principal Factor)

The Principal Factor(Richard A. Johnson, 1992) was described. The spectral decomposition provides us with one factoring of the covariance matrix Σ. Let Σ have eigenvalue – eigenvector pairs $(\lambda_{i,}e_i)$ with$\lambda_1 \geq \lambda_2 \geq \cdots \geq \lambda_p \geq 0$. Then,

$$\sum = \lambda_1 e_{\ 1} e_1' + \lambda_2 e_{\ 2} e_2' + \cdots + \lambda_p e_{\ p} e_p'$$

$$= \left[\sqrt{\lambda_1}e_1 \vdots \sqrt{\lambda_2}e_2 \vdots \cdots \vdots \sqrt{\lambda_p}e_p\right]\begin{bmatrix} \sqrt{\lambda_1}e_1' \\ \hdashline \sqrt{\lambda_2}e_2' \\ \hdashline \vdots \\ \hdashline \sqrt{\lambda_p}e_p' \end{bmatrix}$$

This fits the prescribed covariance structure for the factor analysis model having as many factors as variables (m =p) and specific variances ψ_i = 0 for all i, the loading matrix has jth column given by $\sqrt{\lambda_i}e_j$. This can be written

$$\underset{(p\times p)}{\sum} = \underset{(p\times p)}{\mathbf{L}}\underset{(p\times p)}{\mathbf{L}'} + \underset{(p\times p)}{\mathbf{0}} = \mathbf{L}\mathbf{L}'$$

Apart from the scale factor $\sqrt{\lambda_i}$, the factor loadings on the j^{th} factor are the coefficients for the j^{th} principal component of the population.

Although the factor analysis representation of **Σ**is exact, it is not particularly useful. It employs many common factors as there are variables and does not allow for any variation in the specific factors$\boldsymbol{\varepsilon}$. One approach when the last **p-m** eigenvalues are small is to neglect the contribution of $\lambda_{m+1}e_{m+1}e_{m+1}' + \cdots + \lambda_p e_p e_p'$to $\sum$. Neglecting this contribution, the approximation is obtained.

$$\sum = \left[\sqrt{\lambda_1}\mathbf{e}_1 \vdots \sqrt{\lambda_2}\mathbf{e}_2 \vdots \cdots \vdots \sqrt{\lambda_m}\mathbf{e}_m\right]\begin{bmatrix} \sqrt{\lambda_1}e_1' \\ \hdashline \sqrt{\lambda_2}e_2' \\ \hdashline \vdots \\ \hdashline \sqrt{\lambda_m}e_m' \end{bmatrix} = \underset{(p\times m)}{\mathbf{L}}\underset{(m\times p)}{\mathbf{L}'}$$

The approximate representation is assuming that the specific factors $\boldsymbol{\varepsilon}$ are of minor importance and can also be ignored in the factoring of $\boldsymbol{\Sigma}$. The approximation can be written as the following:

$$\sum = \mathbf{L}\,\mathbf{L}' + \boldsymbol{\Psi}$$

$$= \left[\sqrt{\lambda_1}\mathbf{e}_1 \vdots \sqrt{\lambda_2}\mathbf{e}_2 \vdots \cdots \vdots \sqrt{\lambda_m}\mathbf{e}_m\right]\begin{bmatrix} \sqrt{\lambda_1}e_1' \\ \cdots\cdots \\ \sqrt{\lambda_2}e_2' \\ \cdots\cdots \\ \vdots \\ \cdots\cdots \\ \sqrt{\lambda_m}e_m' \end{bmatrix} + \begin{bmatrix} \psi_1 & 0 & \cdots & 0 \\ 0 & \psi_2 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \psi_p \end{bmatrix}$$

where $\psi_i = \sigma_{ii} - \sum_{j=1}^{m} l_{ij}^2$ for $i = 1, 2, \ldots, p$

To apply this approach to a data set $\mathbf{x}_1, \mathbf{x}_2, \ldots, \mathbf{x}_n$, it is customary first to center the observations by subtracting the sample mean $\bar{x}$. The cantered observations

$$\mathbf{x}_j - \overline{\mathbf{x}} = \begin{bmatrix} x_{j1} \\ x_{j2} \\ \vdots \\ x_{jp} \end{bmatrix} - \begin{bmatrix} \bar{x}_1 \\ \bar{x}_2 \\ \vdots \\ \bar{x}_p \end{bmatrix} = \begin{bmatrix} x_{j1}-\bar{x}_1 \\ x_{j2}-\bar{x}_2 \\ \vdots \;\vdots\; \vdots \\ x_{jp}-\bar{x}_p \end{bmatrix}, \; j = 1, 2, \ldots, n$$

have the same sample covariance matrix **S** as the original observations.

In cases where the units of the variables are not commensurate, it is usually desirable to work with the standardized variables.

$$\mathbf{z}_j = \begin{bmatrix} \dfrac{(x_{j1} - \bar{x}_1)}{\sqrt{s_{11}}} \\ \dfrac{(x_{j2} - \bar{x}_2)}{\sqrt{s_{22}}} \\ \vdots \\ \dfrac{(x_{jp} - \bar{x}_p)}{\sqrt{s_{pp}}} \end{bmatrix}, \; j = 1,2, \ldots, n$$

This sample covariance matrix is the sample correlation matrix **R** of the observations $\mathbf{x}_1, \mathbf{x}_2, \ldots, \mathbf{x}_n$, Standardization avoids the problems of having one variable with large variance unduly influencing the determination of factor loadings. The sample covariance matrix **S** or the sample correlation matrix **R** is known as principal component solution.

Principal Component Solution

The principal component solution (Richard A. Johnson, 1992) was described. The principal component factor analysis of the sample covariance matrix **S** is specified in terms of its eigenvalue – eigenvector pairs

$(\hat{\lambda}_1, \hat{e}_1)$, $(\hat{\lambda}_2, \hat{e}_2)$, $(\hat{\lambda}_3, \hat{e}_3)$,… ,$(\hat{\lambda}_p, \hat{e}_p)$ where. $\hat{\lambda}_1 \geq \hat{\lambda}_2 \geq \hat{\lambda}_3 \geq \cdots \geq \hat{\lambda}_p$.

Let m< p be the number of common factors. Then the matrix of estimated factor loading $(\tilde{\ell}_{ij})$ is given …

$$\tilde{\mathbf{L}} = \left[\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1 \middle| \sqrt{\hat{\lambda}_2}\,\hat{\mathbf{e}}_2 \middle| \sqrt{\hat{\lambda}_3}\,\hat{\mathbf{e}}_3 \middle| \quad \ldots \quad \middle| \sqrt{\hat{\lambda}_p}\,\hat{\mathbf{e}}_p\right]$$

The estimated specific variance are provided by the diagonal elements of the matrix $\boldsymbol{S} - \tilde{\mathbf{L}}\tilde{\mathbf{L}}'$.

$$\tilde{\Psi} = \begin{bmatrix} \widetilde{\psi_1} & 0 & \cdots & 0 \\ 0 & \widetilde{\psi_2} & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \widetilde{\psi_p} \end{bmatrix} \quad \text{with} \quad \widetilde{\psi_i} = s_{ij} - \sum_{j=1}^{m} \widetilde{\ell_{ij}^2}$$

Communalities are estimated as

$$\tilde{h} = \tilde{\ell}_{i1}^2 + \tilde{\ell}_{i2}^2 + \cdots + \tilde{\ell}_{im}^2$$

The principal component factor analysis of the sample correlation matrix is obtained by starting with **R** in place of **S**.

Residual Matrix

If the number of common factors is not determined by a priori considerations based on the estimated eigenvalues in much the same manner as with principal component, consider the residual matrix

$$\mathbf{S} - (\tilde{\mathbf{L}}\tilde{\mathbf{L}}' + \tilde{\mathbf{\Psi}})$$

Resulting from the approximation of S by the principal component solution. The diagonal elements are zero. Sum of squared entries of

$$(\boldsymbol{S} - (\tilde{\mathbf{L}}\tilde{\mathbf{L}}' + \tilde{\mathbf{\Psi}})) \leq \hat{\lambda}_{m-1}^2 + \cdots + \hat{\lambda}_p^2$$

The contributions of the first few factors to the sample variances of the variables should be large. The contribution to the sample variance s_{ii} from the first common factor is $\widetilde{\ell_{i1}^2}$. The contribution to the total sample variance, $s_{11} + s_{22} + \cdots + s_{pp} = \text{tr}\,(\mathbf{S})$, from the first common factor is then

$$\tilde{\ell}_{11}^2 + \ell_{21}^2 + \cdots + \tilde{\ell}_{p1}^2 = (\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1)'\,(\sqrt{\hat{\lambda}_1}\,\hat{\mathbf{e}}_1) = \hat{\lambda}_1$$

Since the eigenvector $\widehat{e_1}$ has unit length. In general,

$$\begin{pmatrix} Proportion\ of\ total \\ sample\ variance \\ due\ to\ jth\ factor \end{pmatrix} = \begin{cases} \dfrac{\hat{\lambda}_j}{s_{11} + s_{11} + s_{11} + \ \ldots \ + s_{pp}} & \text{for a factor analysis of } \mathbf{S} \\ \dfrac{\hat{\lambda}_j}{p} & \text{for a factor analysis of } \mathbf{R} \end{cases}$$

is frequently used as a heuristic device for determining the appropriate number of common factors. The number of common factors retained in the model is increased until a "suitable proportion" of the total sample variance has been explained.

Factor Rotation

The factor rotation (Richard A. Johnson, 1992) was described. All factor loadings obtained from the initial loadings by a orthogonal transformation have the same ability to reproduce the covariance matrix. An orthogonal transformation of the factor loadings as well as the implied orthogonal transformation of the factors is called factor rotation. If $\hat{\boldsymbol{L}}$ if the p x m matrix of estimated factor loadings obtained by any method; then

$\hat{\mathbf{L}}^* = \hat{\mathbf{L}}\mathbf{T}$, where $\mathbf{T}\mathbf{T}' = \mathbf{T}'\mathbf{T} = \mathbf{I}$ is a $p\times$ m matrix of rotated loadings.

The estimated covariance matrix remains unchanged, since

$$\hat{\mathbf{L}}\hat{\mathbf{L}}' + \widehat{\hat{\mathbf{\Psi}}} = \hat{\mathbf{L}}\mathbf{T}\mathbf{T}'\hat{\mathbf{L}} + \hat{\mathbf{\Psi}} = \hat{\mathbf{L}}^*\hat{\mathbf{L}}*' + \hat{\mathbf{\Psi}}$$

Equation indicates that the residual matrix, $\mathbf{S}_n - \hat{\mathbf{L}}\hat{\mathbf{L}}' - \hat{\mathbf{\Psi}} = \mathbf{S}_n - \hat{\mathbf{L}}^*\hat{\mathbf{L}}*' + \hat{\mathbf{\Psi}}$ remains unchanged. The specific variance $\widehat{\psi_i}$ and hence the communalities $\hat{h}_i^2$, are unaltered. Thus, from a mathematical viewpoint, it is immaterial whether $\hat{\mathbf{L}}$ or $\hat{\mathbf{L}}^*$ is obtained.

The original loading may not be readily interpret able. It is usual practice to rotate until a simpler structure is achieved. Each variable loads-highly on a single factor and has small to moderate loadings on the remaining factors. It is possible to get this simple structure and the rotated loading for the decathlon data provide a clear pattern. Graphical and analytical methods should be concentrated for determining an orthogonal rotation to a simple structure.

Oblique Rotation

The oblique rotation(Richard A. Johnson, 1992) was described. Orthogonal rotations are appropriate for a factor model in which the common factors are assumed

to be independent. Many investigators in social sciences consider oblique (nonorthogonal) rotations, as well as orthogonal rotations. Oblique rotation is frequently a useful aid in factor analysis.

If the *m* common factors as coordinate axes, the point with the *m* coordinates $(\hat{\ell}_{i1,}\hat{\ell}_{i2,}\hat{\ell}_{i3,},\ldots,\hat{\ell}_{im})$ represents the position of the i^{th} variable in the factor space. Assuming that the variables are grouped into non-overlapping clusters, an orthogonal rotation to a simple structure corresponds to a rigid rotation of the coordinate axes such that the axes, after rotation, pass as Frequent to the clusters as possible. An oblique rotation to a simple corresponds to a nonrigid rotation of the coordinate system such that the rotated axes (no longer perpendicular) pass (nearly) through the clusters. An oblique rotation seeks to express each variable in terms of a minimum number of factors preferably, a single factor.

The Varimax Rotation

The varimax rotation(Richard A. Johnson, 1992) was described. When principal components analysis and factor analysis identify the underlying factors, they do so using a greedy algorithm. They begin by identifying the first component in such a way that it explains as much variance as possible, and proceed by identifying the next component in such a way that it explains the maximum possible amount of the remaining variance and so on.

In statistics, a varimax rotation is used to simplify the expression of a particular sub-space in terms of judging a few major items each. The actual coordinate system is unchanged, it is the orthogonal basis that is being rotated to align with those coordinates. The sub-space found with principal component analysis or factor analysis is expressed as a dense basis with many non-zero weights which makes it hard to interpret. Varimax is so called because it maximizes the sum of the variances of the squared loadings (squared correlations between variables and factors). In addition to, varimax rotation, where the factor axes are kept at right angles to each other, is most frequently chosen. Ordinarily, rotation reduces the number of complex variables and improves interpretation. Almost all applications of principal component analysis and factor analysis in survey research apply the varimax rotation method.

CHAPTER IV
ANALYSIS OF TRAINEES' SATISFACTION OF HCTA

This chapter presents the analysis of study on the trainees satisfaction of based on results of data collected from sample. The descriptive analysis, reliability test, factor analysis, and verifying to analyses for main key factors are discussed.

Any Training Academy provides consultancy to its clients in the different areas of management. The trainees are treated well by the organization and ensured that they are comfortable at each stage. Therefore, trainees teaching, material, facilities satisfaction and also the needs of the trainees is needed to be measured to obtain the of training academy success. In this chapter, employees and trainees' satisfaction levels of Hospitality and Catering Training Academy are analyzed. And then significant factors contributing to trainees satisfaction of HCTA are identified by using factor analysis to reduce the data and identify the critical factors is applied for analyzing survey data. Demographic characteristics has been carried along with frequency and percentage distribution

This section describes a detailed presentation of methodology and procedure which have following in conducting the study about trainee's satisfaction by using factor analysis.

4.1 Socio Demographic Characteristics of Trainees

The percent distribution of socio-demographic characteristics of trainees is show in the Table (4.1).

Table (4.1) Percent Distribution of Socio-demographic Characteristics of Trainees

Characteristics		Number of Respondents	Percentage
Gender	Male	148	57.8
	Female	108	42.2
Education	University Student	125	48.8
	Degree Holder	131	51.2
Did you attend any hotel operation school before you attended HCTA	Yes	59	23
	No	197	77
Course Study	Hotel Operation	166	64.8
	Culinary Arts	90	35.2
Purpose of attending at HCTA	To Gain Profession for living	88	34.8
	Easy to Get Job	86	34
	Interested in Cooking	28	10.3
	Interested in Hotel Operation	54	20.9
Apply in operation, study of hotel operation studied at HCTA	Yes	165	64.5
	No	91	36.5
	Total	**256**	**100**

Source: Survey Data, 2019

According to this study, the result of the respondent by demography characteristics has been studied. 57.8% of the respondents are males and 42.2% of the respondents are female. There are 15.6% more males respondents than females in HCTA.

Concerning the education level, of the respondents there are two group: university student and degree holder. According to the results, 51.2% are degree holder and 48.2% are university students. Among the respondents are 23% of the attended hotel operation school before attending training in HCTA, whereas 77% them have not attend hotel operation before they attended training in HCTA.

According to course study, 64.8% of the respondents attended the Hotel Operation and 35.2% of the respondents attended Culinary Arts. Most of the respondents (34.8%) are attended the training to gain profession for living and follow by 34% of the respondents attended the training for easy to get job, the respondents 10.3% of the respondents are interested in cooking and 20.9% of the respondents are interested in hotel operation. Moreover, it is found that 64.5% of the respondents can apply in hotel operation studied at HCTA in their career and 36.5% of the respondents can’t apply in hotel operation studied at HCTA.

Employment of Trainees'

The percentage of the respondents in HCTA of employment profile of the percentage is described in the Table (4.2).

Table (4.2) Employment of Trainees'

Characteristics		**Number of Respondents**	**Percentage**
After internship working	Got a Job	203	After internship working
	Didn't Got a Job	53	
Still working in hotel operation	Yes	155	Still working in hotel operation
	No	101	
Type of hotel your work	One to Two Star Hotel	50	Type of hotel your work
	Three Star Hotel	47	
	Five Star Hotel	59	
	Other	100	
Which Position are you working your work	Kitchen & Pastry	57	Which Position are you working your work
	Hotel Operation	97	
	Job Apply	51	
	Other Job	22	
	Own Hotel	2	
	Oversea	2	
	Students	25	
	Total	**256**	

Source: Survey Data, 2019

There are four group of respondents. They are after internship working, still working in hotel operation, type of hotel and which working position.

According to the results, 79.3% of the respondents are get a jobs (after internship) and 20.7% of the respondents didn't get job (after internship). It means

that two third of respondents obtain job. Among the respondents 60.5% are still working in hotel operation and 39.5% of the respondents are still working in hotel operation. The percentage of respondents skill working in hotel operation is more than that of non-working trainees. Some of the respondents have worked in hotel operation after studying HCTA, but they quit the job due to attend the university.

According to this study, 19.5% of the respondents are working in One to Two Star Hotel, 18.4% of the respondents in Three Star Hotel, 23% of the respondents in Five Star Hotel and 39.1 of the respondents in others (restaurant, own business, home business, students, other job, job apply and oversea). Due to position result 23.3% of the respondents are working in kitchen and pastry and 38.7% of the respondents in hotel operation (HK, FO and F&B).

Income Level of Trainees'

The percentage of the respondents in HCTA of income profile of the percentage is described in the following Table.

Table (4.3) Income Level of Trainees'

Sr.	Income MMK	Number of Respondents	Percentage
1	Between 100,001 - 200,000	94	36.7
2	Between 200,001 - 300,000	33	12.9
3	Between 300,001 - 400,000	12	4.7
4	Between 400,001 – above	15	5.9
5	Other Jobs	26	10.1
6	Applying Jobs	51	19.9
7	Continuing University Education	25	9.8
	Total	**256**	**100%**

Source: Survey Data, 2019

In this study, seven categories are classified with the amount of income level. These included income between 100,001 and 200,000, income between 200,001 and 300,000, income between 300,001 - 400,000, income between 400,001 - above. There are also respondents who are finding and applying other jobs and those attending universities. Among the income, Between 100,001 - 200,000 of the respondents are

36.7% and Between 200,001 - 300,000 of the respondents are 12.9%. Other Job, Appling Jobs and Continuing University Education, these facts were not taken detail as they did not support to this survey.

4.2 Satisfaction Level of Trainees' of HCTA

In this study, overall satisfaction level of the trainees are investigated based on 256 sample trainees. The satisfaction levels are found based on five – point Likert scale (1= not very satisfied, 2 = not satisfied, 3 = natural, 4 = satisfied, 5 = very satisfied).

In Table (4.4)**,** Trainee's satisfaction of HCTA are divided into two groups. The average satisfaction score of less than 50 percentage are considered as not satisfied and not very satisfied while the average satisfaction score of 50 percentage and above are considered as satisfied and very satisfied. Among the respondents, 95.3% of them are satisfied and very satisfied on the 4.7% of the respondents are not very satisfied not very satisfied on the training of HCTA. 50 percentage is set as the default. Therefore, it can be said that most of the respondents satisfy on the training of HCTA.

Table (4.4) Satisfaction Level of Trainees'

Satisfaction	No. of Respondents	Percentage
Satisfied and very satisfied	244	95.3
Not satisfied and not very satisfied	12	4.7
Total	256	100

Source: Survey Data, 2019

4.3 Factor Analysis of Trainee's Satisfaction of HCTA

Reliability Analysis

This reliability analysis was referred to measure for the accuracy and consistency of collected data. This method was divided into two broad categories, there was external consistency procedures and internal consistency procedures. The reliability statistics results is described in the following table.

Table (4.5) Reliability Analysis Result

Cronbach's Alpha	No of Items
0.962	20

Source: Survey Data, 2019

Cronbach's alpha reliability coefficient of overall items calculated as 0.962 which was greater than 0.7, excellent level of internal consistency for the overall items.

KMO and Bartlett's Test

KMO measure sampling adequacy values were 0.949 and Approx. Chi-Square value of 4541.441 and significant of Bartlett's Test of Sphericity is 0.000. KMO values between 0.8 and 1 indicate the sampling is adequate. KMO value greater than 0.5 and a significance level for the Bartlett's test less than 0.05. There is substantial correlation in the data. Therefore, factor analysis investigated as a suitable technique for analyzing factor loading.

Table (4.6) Kaiser Meyer Olkin (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.949
Bartlett's Test of Sphericity	Approx. Chi-Square	4541.441
	Df	190
	Sig.	0.000

Source: Survey Data, 2019

Factor Analysis

Factor analysis process use initial solution statistics and KMO and Bartlett's test for sphericity of correlation matrix and also selected Principal components method and extract based on eigenvalues greater than1.Then selected varimax rotation method and selected coefficient absolute value are 0.33. This is suppressing of factors loading values less than0.33.

In Factor analysis section, output of total variance was presented to extract associated eigenvalues with 3 common factors which was eigenvalue greater than 1. The percentage of total variance was described 59.667%, 6.229% and 5.133% respectively. This was 70.769% of the total variance attributable to 3 factors.

Communalities

In this subsection is to observe the communalities. These communalities indicate the proportion of variance in each variable explained by the factors extracted. If any variable has communally less than 0.5, it is removed that variable from the analysis as the amount variance explained by the factors is less than 50%.

Table (4.7) Communalities

Variable	Initial	Extraction
Q 13.1	1.000	0.704
Q 13.2	1.000	0.743
Q 13.3	1.000	0.806
Q 13.4	1.000	0.608
Q 13.5	1.000	0.752
Q 13.6	1.000	0.752
Q 13.7	1.000	0.753
Q 13.8	1.000	0.747
Q 13.9	1.000	0.715
Q 13.10	1.000	0.674
Q 13.11	1.000	0.630
Q 13.12	1.000	0.686
Q 13.13	1.000	0.640
Q 13.14	1.000	0.526
Q 13.15	1.000	0.745
Q 13.16	1.000	0.730
Q 13.17	1.000	0.699
Q 13.18	1.000	0.803
Q 13.19	1.000	0.774
Q 13.20	1.000	0.675

Source: Survey Results, 2019

Extraction Method: Principal Component Analysis.

According to Table (4.7), it observed that all communalities are more than 0.5 for this study. Thus, over 50% of the variance in all variables are accounted for by the extracted factors.

Total Variance Explained

The total variance extracted by the components for all the variables are put together in this selection. Table (4.8) shows the actual factors that are extracted. It can be seen that variance explained is about 51% and the analysis has extracted 3 components by using principle component analysis (PCA) that considers the linear combination of the variables and groups those variables which have maximum relation between them and the second one has next level of variance but lower than the previous one.

Sometimes, the direction of the data measured for the variables may be different and the direction of the factor extracted may be slightly different. In other words, loading of each variable in a factor can be improved. This problem arises because, some variables loads higher on some factors and loads lower on some others. To overcome this, rotation method, which improved the loading of the variables on each of the factors has been used. Table (4.8) shows the rotated components matrix by using “Varimax”.

Table (4.8) Output for Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.868	59.341	59.341	11.868	59.341	59.341	5.877	29.383	29.383
2	1.251	6.257	65.598	1.251	6.257	65.598	4.614	23.070	52.453
3	1.040	5.198	70.796	1.040	5.198	70.796	3.669	18.343	70.796
4	0.934	4.672	75.468						
5	0.668	3.340	78.808						
6	0.635	3.174	81.981						
7	0.491	2.456	84.438						
8	0.432	2.162	86.600						
9	0.377	1.885	88.485						
10	0.312	1.561	90.047						
11	0.291	1.457	91.504						
12	0.282	1.412	92.916						
13	0.242	1.211	94.126						
14	0.212	1.060	95.186						
15	0.204	1.018	96.205						
16	0.175	0.874	97.079						
17	0.169	0.847	97.926						
18	0.163	0.814	98.740						
19	0.139	0.695	99.436						
20	0.113	0.564	100.000						

Source: Survey Data, 2019

Extraction Method: Principal Component Analysis.

Component Matrix

The component matrix presents the three components extracted with principal component analysis method. Variables Q13.12, Q13.13, Q13.18, Q13.16, Q13.15, Q13.17, Q13.1, Q13.11, Q13.20, Q13.14, Q13.10 and Q13.9 are factor 1, variables Q13.2, Q13.3, Q13.1and Q13.4 are factor 2, Q13.6, Q13.7, 13.8 and Q13.5 are factor 3.

Table (4.9) Component Matrix

Component			
Question No	1	2	3
Q 13.18	0.849		
Q 13.15	0.848		
Q 13.9	0.842		
Q 13.19	0.835		
Q 13.16	0.832		
Q 13.17	0.806		
Q 13.3	0.804	-0.379	
Q 13.10	0.796		
Q 13.5	0.786	-0.344	
Q 13.12	0.781		
Q 13.8	0.779		0.367
Q 13.7	0.756		0.404
Q 13.1	0.743	-0.359	
Q 13.20	0.74		-0.335
Q 13.6	0.719		0.391
Q 13.11	0.717		
Q 13.4	0.716		
Q 13.2	0.704	-0.467	
Q 13.13	0.664	0.412	
Q 13.14	0.644		

Source: Survey Data, 2019

Extraction Method: Principal Component Analysis. a 3components extracted.

Rotated Component Matrix

The rotated component matrix was described after three iterations rotation converged by using with principal component analysis extraction method and varimax with Kaiser Normalization rotation method. The rotation factor structures were shown in the Table (4.10) Q13.12, Q13.13, Q13.18, Q13.16, Q13.15, Q13.17, Q13.1, Q13.11, Q13.20, Q13.14, Q13.10 and Q13.9 are factor 1, variables Q13.2, Q13.3, Q13.1and 13.4 are Factor 2, Q13.6, Q13.7,13.8 and Q13.5 are Factor 3.

Table (4.10) Rotated Component Matrix[a]

Component			
Question No	1	2	3
Q 13.12	0.72	0.333	
Q 13.13	0.72		0.348
Q 13.18	0.69	0.545	
Q 13.16	0.688	0.42	
Q 13.15	0.678	0.43	0.318
Q 13.17	0.675	0.435	
Q 13.19	0.671	0.543	
Q 13.11	0.653		0.433
Q 13.20	0.624	0.532	
Q 13.14	0.595		0.404
Q 13.10	0.591		0.491
Q 13.9	0.526	0.459	0.477
Q 13.2		0.781	0.335
Q 13.3		0.758	0.399
Q 13.1		0.726	0.34
Q 13.4	0.43	0.633	
Q 13.6		0.368	0.756
Q 13.7	0.347		0.742
Q 13.8	0.406		0.707
Q 13.5		0.587	0.588

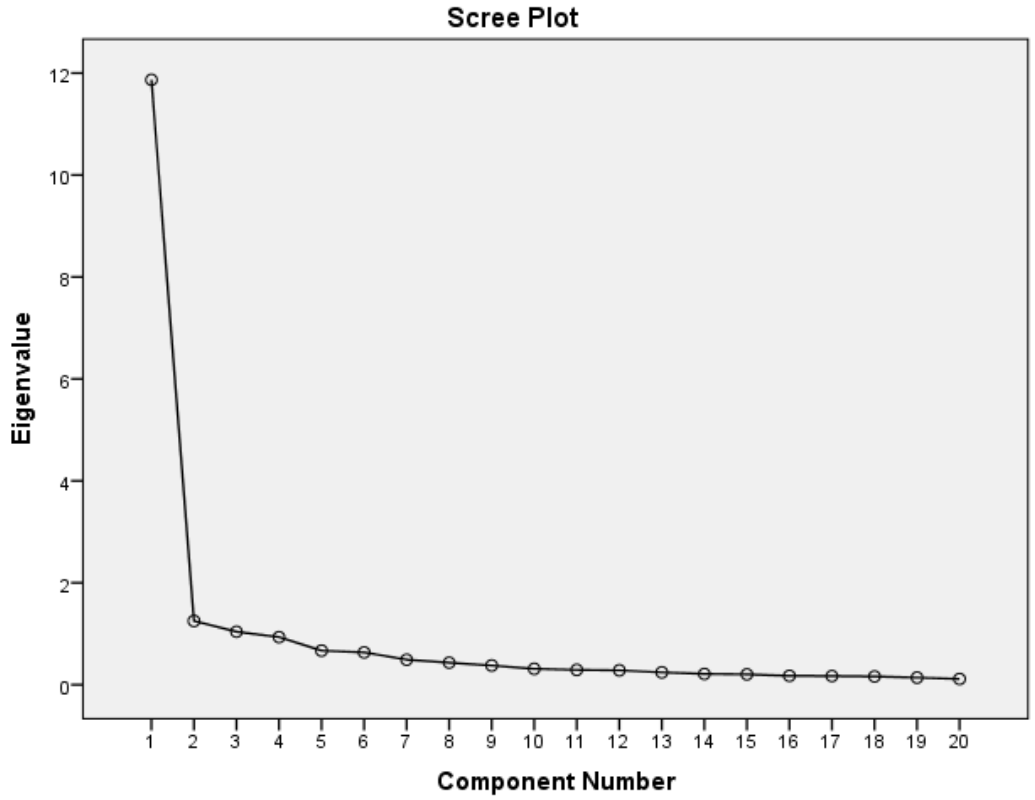
Source: Survey Data, 2019

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations.

Scree Plot

Screen Plot is a graph of eigenvalues or singular values that demonstrates the portion of total variance represented by the principal component. A scree plot shows the eigenvalue on the y-axis and number of components on the x-axis. It ways displays a downward curve. The scree plot is shown in Figure (4.1).

Figure (4.1) Scree Plot



Sources: Survey Data, 2019

According to scree plot, the first 3 factors were obtained in figure (4.1), because their eigenvalues are greater than 1. Factor loadings are those values which explain how closely the variables are related to each one of the factors discovered. It is the absolute (rather than the signs, plus or minus) of the loading that is important in the interpretation.

In this study, there are three factors are trainees' satisfaction and factor - I is evident that the variables and factor loadings are 0.720 for Q13.12, 0.720 for Q13.13, 0.690 for Q13.18, 0.688 for Q13.16,0.678 for Q13.15, 0.675 for Q13.17,0.671 for Q13.19 and 0.653 for Q13.11 respectively. The factor consisting of the variable that is continue teaching, effective internship, satisfy the classrooms, curriculum satisfy,

lecturer satisfy, practical room satisfy, practical satisfy, apply the knowledge, location satisfy. As the fact factor I can be termed as “Teaching and Leaning Conditions” The variable are shows in Table (4.11).

Table (4.11) Factor - I

Q13.12	The senior staff continue teaching about the hotel operation at the hotel I work.	0.720
Q13.13	At the hotel sent by HCTA, I had got effective internship course.	0.720
Q13.18	Do you satisfy the classrooms of HCTA?	0.690
Q13.16	Do you satisfy about the knowledge you studied from HCTA?	0.688
Q13.15	Do you satisfy about the curriculum of HCTA?	0.678
Q13.17	Do you satisfy the skill of the lectures of HCTA?	0.675
Q13.19	Do you satisfy upon the practical rooms of HCTA?	0.671
Q13.11	The students have a chance to apply the knowledge they learn in hotel operation.	0.653
Q13.20	Do you satisfy the location of HCTA?	0.624
Q13.14	Do you satisfy the method of teaching HCTA ?	0.595
Q13.10	I have a chance to do practical lecture from oversea and local guest lecturers.	0.591
Q13.9	The students practice repeatedly in each practice, they can memorize perfectly to every lecture	0.526

Source: HCTA Survey Data 2019

Factor - II is evident that the variables and factor loadings are 0.781 for Q13.2, 0.758 for Q13.3, 0.726 for Q13.1 and 0.633 for Q13.4, respectively. The factor consisting of the variable that is lecturer knowledge well, lecturer facility, sharing knowledge lecturer. As the fact factor II can be termed as “Expertise of Lecturers” variable are shows in Table (4.12).

Table (4.12) Factor - II

Q13.2	The lecturers use (CCA) method for effective teaching.	0.781
Q13.3	The lecturers can share their knowledge well.	0.758
Q13.1	The lecture use projectors, text book, language lab and well preparation for the lecture	0.726
Q13.4	Since the guests lecturers from both local and oversea come and share occasionally. I have the chance to participate in workshop, practical lecture and knowledge sharing about hotel industry.	0.633

Source: HCTA Survey Data 2019

Factor – III is evident that the variables and factor loadings are 0.756 for Q13.6, 0.742 for Q13.7, 0.707 for Q13.8 and 0.588 for Q13.5, respectively. The factor consisting of the variable that is hotel operation and kitchen equipment, lecturer facility, happy learn trainees. As the fact factor III can be termed as "Teaching Facilities" The variable are showed in Table (4.13).

Table (4.13) Factor-III

Q13.6	Practical rooms like hotel rooms, receptions, restaurants, bars and kitchen are the same as real hotel operation.	0.756
Q13.7	Sine kitchen utensil, tables and other hotel operation equipment are good enough for the students.	0.742
Q13.8	The Lecturers' teaching are very good and I am happy in operation very well.	0.707
Q13.5	Since it is fully equipped with facilities of hotel like lobby, bars, stoves and beds that are good enough for students capacity, we can learn practically from the lecturers.	0.588

Source: HCTA Survey Data 2019

Table (4.14) Factors Affecting of Trainees' Satisfaction of HCTA

Questions	Teaching and Learning conditions	Proficiency of Lecturers	Teaching Facilities
Q 13.12	0.720		
Q 13.13	0.720		
Q 13.18	0.690		
Q 13.16	0.688		
Q 13.15	0.678		
Q 13.17	0.675		
Q 13.19	0.671		
Q 13.11	0.653		
Q 13.20	0.624		
Q 13.14	0.595		
Q 13.10	0.591		
Q 13.9	0.526		
Q 13.2		0.781	
Q 13.3		0.758	
Q 13.1		0.726	
Q 13.4		0.633	
Q 13.6			0.756
Q 13.7			0.742
Q 13.8			0.707
Q 13.5			0.588

Source: Survey Data, 2019

In this study, there are 20 variables considered, teaching and learning conditions factor, proficiency of lecturers factor and teaching facilities factor are found as main factors which are related to impacts on trainees' satisfaction of Hospitality and Catering Training Academy (HCTA) in Kawhmu Township.

CHAPTER V
CONCLUSION

5.1 Findings

This study aims to investigate the factors influencing the satisfaction of trainees who attended at Hospital and Catering Training Academy (HCTA). In Myanmar, there are many vocational training school. Among them, this study focuses on the HCTA training schools Kawhmu Township, in Yangon Region. In this study, 256 trainees are chosen as the study samples that is 34% of the population by using stratified random sampling method. The data was collected by using a structured questionnaires. This findings of the study shows that the majority of the respondents were satisfied in the training of HCTA.

The results of the study shows that 57.8% of the respondents are males and 42.2% of the respondents are female. Among the respondents, 23% had attended hotel operation school before attending HCTA. Nearly 50% of the respondents are university students and more than half of them are degree holders. Almost two third of the respondents are chosen hotel operation course whereas more than one-third of the respondents attended culinary arts. Among the respondents, more than one-third of them attended the training to gain profession for living, more than one-third of them attended the training easy to get job and almost one-third of them attended the training interested in cooking and hotel operation. Nearly two-third of the respondents can apply the operation in the hotels after studying at HCTA.

After internship, 79.3% of respondents get job. This percentage is more than that of unemployment. The number of staff who are still working in hotel operation is also more than half of unemployment. The number of five star hotel is 23% and others are 39.1%. There are also trainees working in one to two star hotel and three stat hotel. Among them, some are working in kitchen and pastry and most are working in hotel operation. The income level of 36.7% respondents is from 100,001 to 200,000 kyats and 12.9% of them get between 200,001 and 300,000 kyats. The percentage of satisfaction on HCTA is 95.3and 4.7% is not satisfied and not satisfied and not very satisfied.

In term of reliability analysis, the Cronbach’s alpha is 0.962; which is higher than the normal value 0.70 level. Therefore, it can be concluded that higher reliability

of the items can measure the trainee's satisfaction. Thus, the contrast reliability for all items is deemed to be acceptable. According to the KMO and Bartlett Test of Sphericity, test sampling adequacy values were 0.949 which value are greater than 0.6 and it is significant at 0.000 that is p-value less than the level of significance 0.05. Thus, the sample can be considered as adequate to conduct factor analysis. In the scree plot, the first three factors were obtained because their eigenvalues are greater than 1.

To sum up, the study has identified the factors that contribute to Trainees' satisfaction, on private vocational education training, HCTA in the Kawhmu Township. The results indicated that benefits and salary, organization social support including co-workers and working conditions which support employees' career development, enhance the job satisfaction of the trainee's. Factor validity is usually assessed using either the exploratory or the confirmatory modes. Being able to attend HCTA provides job opportunities and income. It is a vocational training and they can go abroad and there are many jobs in the country. So, there are very pleased to have attended HCTA. Exploratory factor analysis (EFA) was conducted due to uncertainty about the dimensionality of factors that involved in measuring trainees' satisfaction. Consequently, it was found that consisted of three factors known as trainees' effect of good facilities, proficiency for the trainee's and teaching technique. Coordination and Facility, Reward & Future Opportunities, Vision of the Hospitality and Catering Training Academy, Work Process, Empowerment, Peer Relationship was homogeneously loaded to the different factors. This means that each of the three dimensions loaded into related factors are all related to trainees satisfaction on HCTA.

5.2 Recommendations

The following recommendations are made from the findings and the conclusions of the study. From the findings, it can be recommended that the management of private should consider formulating a convenient and valuable reward and benefit to the employees so that they will remain satisfy with their job. Improvisation in the compensation policy will enhance their commitment to training school. It is recommended that schools should try and provide teaching for their teachers. From the research findings, it is clear that this job factor of work environment and working conditions had the lowest mean. Therefore, lecture and teaching should have comfortable and spacious staff rooms to allow a "breathing"

space for the teacher. The teachers complained of congestion and discomfort wherever they were preparing for their next lessons. Its important that the inspectorate inspects a school's buildings before giving facility to operate to ensure that the classrooms are large enough and there are enough compounds to accommodate both trainees' and teacher.

Vocational training can also give applicants an edge in job searches, since they already have the certifiable knowledge they need to enter the field. Myanmar needs to expand the current vocational training environment and intensify the system if it wants to successfully overcome the scar city of skilled labour in industries and avoid the future economic woes that may result from the implications of long-term labour shortage and the recruitment of un-professionalized or unprepared staff in the workforce.

Especially in South East of Myanmar, local people in search of employment mainly migrate to Thailand. The local work force vacuum is filled by internal migrants from other parts of Myanmar who mostly work as day labourers in agriculture, construction and basic services. Due to a lack of capital and poor infrastructure only few manufacturing establishments provide job opportunities. This makes it necessary to extend skills development. Credible vocational certificates can also improve the opportunities and minimize the risks for those persons who have to rely on migration for income generation. The local stakeholder more job opportunities must be created to employment depends on the economic development of the country.

The vocational training centers where suppose the hospitality and catering and other vocation are needed more and more in Myanmar. So, private or government need to support abundant of vocational schools or training centers like (HCTA). The development of the world today does not rely on its natural resources and prosperity, but on the quality of it shaman resources.

Many opportunities are open up, but many challenges are also hidden on the way. There are many new things in this rapidly progressing world that we haven't had opportunity to learn and study ever before. It is seemed and recognized as an important contribution to local economic and social development, both by young people and small business. For females to reach higher levels of the occupation all adder in those modern industries where hey mainly work in low paid, low-skills jobs.

Last but not least, approaches that facilities access to skills development such asvocationaltrainingareimportantinstrumentsthatensurethatdisadvantagedpersons are

not excluded from the country's development, particularly in remote rural areas. Vocational skills development for the sector as well as measures to ensure decent working conditions and health of the workforce will be necessary. Hope to have more hospitality and catering training academy and school in all states and regions for youths.

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APPENDIX

Questionnaire

"Trainees' Satisfaction of Hospitality and Catering Training Academy" (HCTA) My name is Aye Myat Mon. I am studying the Master of Applied Statistics (MAS) programme of Yangon University of Economics. I would like to get information from the questionnaires which will be used only for thesis purpose. The following questions are for MAS (Master of Applied Statistics) of the Yangon University of Economic. This survey is not concerned with any government use, political or tax case all. This is to apply any for thesis to master. I'd like to request you to answer the following question –

1. Gender
   Male ---------- 1
   Female ---------- 2

2. Did you attend any other hotel operation school before you attended Hospitality and Catering Academy (HCTA).
   Yes ---------- 1
   No ---------- 2

3. Your education background
   University student ---------- 1
   Degree holder ---------- 2
   Other ---------- 3

4. Which course did you study at Hospitality and Catering Academy (HCTA)?
   Hotel Operation (FO, HK, F&B) ---------- 1
   Culinary Arts (Culinary Arts, Pastry & Bakery) ---------- 2

5. The purpose of attending at HCTA
   It is to gain profession for living ---------- 1
   It is easy to get job ---------- 2

I am interested in cooking ---------- 3

I am interested in hotel operation ---------- 4

6. In which batch did you attend at HCTA. Please specify your batch.

   ---

7. After internship

   I got a job ---------- 1

   I didn't get a job ---------- 2

8. Are you still working in hotel operation?

   Yes ---------- 1

   No ---------- 2

9. Could you apply in operation .The study of hotel operation studied at HCTA?

   Yes ---------- 1

   No ---------- 2

10. Please mention the type of hotel your work.

    One to two star hotel ---------- 1

    Three star hotel ---------- 2

    Five star hotel ---------- 3

    Other ---------- 4

11. In which position are you working at hotel?

    ---

12. The estimate income in each monthly

    Between 100,001 and 200,0000 kyats ----------

    Between 200,001 and 300,0000 kyats ----------

    Between 300,001 and 400,000 kyats ----------

    Between 400,001 and Above ----------

The following questions are the related to students satisfaction on HCTA. Please circle only a number that you want to give the score. Crile only one for each question. (5) very satisfied, (4) satisfied, (3) is that don't know how to mention, (2) not satisfied and (1) very not satisfied.

13.1	The lecture use projectors, text book, language lab and well preparation for the lecture	5	4	3	2	1
13.2	The lecturers use (SCA) method for effective teaching.	5	4	3	2	1
13.3	The lecturers are skillful for their respective subjects and can share their knowledge well.	5	4	3	2	1
13.4	Since the guests lecturers from both local and oversea come and share occasionally. I have the chance to participate in workshop, practical lecture and knowledge sharing about hotel industry.	5	4	3	2	1
13.5	Since it is fully equipped facilities of hotel like lobby, bars, stoves and beds that are good enough with students capacity, we can learn practically from the lecturers.	5	4	3	2	1
13.6	Practical rooms like hotel rooms, receptions, restaurants, bars and kitchen are same as real hotel operation.	5	4	3	2	1
13.7	Sine kitchen utensil, tables and other hotel operation equipment are good enough for the students, every	5	4	3	2	1
13.8	The Lecturer' teaching are very good and I can happy in operation well.	5	4	3	2	1
13.9	The students practice repeatedly in each practice, they can memorize perfectly to every lecture.	5	4	3	2	1
13.10	I have a chance to do practical lecture from oversea and local guest lecturers.	5	4	3	2	1
13.11	The students have a chance to apply the knowledge they learn in hotel operation.	5	4	3	2	1
13.12	The senior staff continue teaching about the hotel operation at the hotel I work.	5	4	3	2	1
13.13	At the hotel sent by HCTA, I had get effective internship course.	5	4	3	2	1
13.14	Do you satisfy the method of teaching HCTA ?	5	4	3	2	1
13.15	Do you satisfy about the curriculum of HCTA?	5	4	3	2	1
13.16	Do you satisfy about the knowledge you studied from HCTA?	5	4	3	2	1
13.17	Do you satisfy the skill of the lectures of HCTA?	5	4	3	2	1
13.18	Do you satisfy the classrooms of HCTA?	5	4	3	2	1
13.19	Do you satisfy upon the practical rooms of HCTA?	5	4	3	2	1
13.20	Do you satisfy the location of HCTA?	5	4	3	2	1

Thank you so much for your help in answering the questions.